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Gender-Specific Risk Factors for Intimate Partner Homicide–A Nationwide Register-Based Study

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Abstract

The present study examined gender differences in intimate partner homicide (IPH) and offender characteristics with the focus on putative gender-specific risk factors in a nationwide consecutive sample of homicide offenders. Data on all offenders (*N* = 642; 91 females, 551 males) convicted of homicide and subjected to a forensic psychiatric examination in Finland were obtained for the years 1995 and 2004. IPH offenders, 39 female and 106 male, were compared for risk factors with female and male offenders whose victims were not spouses. The forensic psychiatric examination reports were retrospectively analyzed, and the Hare Psychopathy Checklist–Revised (PCL-R) was rated. Significant gender differences were found in four risk factors: employment, intoxication of victim, self-defense, and quarrel, mostly related to alcohol as a factor of the offense. The findings support the notion that female IPH is linked to defensive

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reactions resulting from prior abuse, and that IPH offenders resemble the general population more than offenders of other types of homicide.

Keywords

intimate partner homicide, risk factors, gender differences

Introduction

Homicide committed by an intimate partner—the killing of a spouse, ex-spouse, boyfriend, or girlfriend—accounts for a substantial share of all homicide cases in many countries, although compared with nonlethal intimate partner violence the numbers are small. A base rate of intimate partner homicide (IPH) of 0.36 compared with a base rate of 356 of nonlethal intimate violence in a population of 100,000 has been reported in Sweden (Rying, 2001). Corresponding rates of IPH of 0.7 in 100,000 was found in Canada in 1998 (Serran & Firestone, 2004) and 0.2 in Denmark during a 25-year period (Leth, 2009). It has been reported that approximately one third of female homicide victims have been killed by their male spouses, whereas less than 10% of the male victims have been killed by their female spouses (Aldridge & Browne, 2003; Bureau of Justice Statistics, 2010; Paulozzi, Saltzman, Thompson, & Holmgreen, 2001; Salmi, Lehti, Sirén, Kivivuori, & Aaltonen, 2009). In Finland, from 2003 to 2007, 82% of all IPH victims were female victims killed by their male spouse, and 18% were male victims killed by their female spouse (Salmi et al., 2009). The victims of female homicide offenders have more often been intimate partners (35%) than have the victims of the male offenders (22%; Lehti, 2010). A review of IPH between 2005 and 2007 in Massachusetts in the United States showed that 85% of the intimate partner victims were women and 15% were male (Astion & O'Brian, 2009). However, in this review, the offender was a man in 87% and a woman in 13% of the IPHs. A slightly higher proportion of women as offenders (19%) of IPH was found in Finland from 2004 to 2009 compared with men (81%; Lehti, 2011).

Research on offender and offense characteristics of IPH show that previous domestic violence is a major risk factor for IPH in males, whereas female offenders have been found to respond in self-defense when they use lethal violence (Aldridge & Browne, 2003; Bailey et al., 1997; Campbell, Glass, Sharps, Laughon, & Bloom, 2007; Garcia, Soria, & Hurwitz, 2007; Moracco, Runyan, & Butts, 2003; Saunders & Browne, 1991; Swatt & He, 2006). There are motivational gender differences related to the dynamics of

the relationships (Liem & Roberts, 2009; Saunders & Browne, 1991; Serran & Firestone, 2004). In men, possessiveness or the problems in connection with separation and jealousy seems to be the most common motivational factors in femicide, whereas women kill their spouses in self-defense or after years of suffering physical violence (Astion & O'Brian, 2009; Belfrage & Rying, 2004; Dobash, Dobash, Cavanagh, & Lewis, 2004; Leth, 2009; Rying, 2001; Saunders & Browne, 1991; Serran & Firestone, 2004; Wilson & Daly, 1998). However, recent research reveals that women seem not to commit intimate violence solely in self-defense as often as previously supposed (Dutton & Nicholls, 2005). Similarly, a Finnish nationwide study revealed that only in 13% of cases did women who had killed or abused their husband or common-law husband report in an interview that they did it in self-defense (Weizmann-Henelius, Viemerö, & Eronen, 2003). Quarrelling while drinking was reported by 21% of the women, and 71% of them were alcohol dependent.

Demographic characteristics have also been linked to IPH. Campbell and coworkers (2007, 2003) found that unemployment increased the risk for partner femicide, whereas high school education was seen as a protective factor. However, conflicting results have also been found in some studies showing IPH offenders to have achieved higher school education and fuller employment than offenders of other types of homicide (Dobash et al., 2004). Women seem to be at a greater risk of lethal and nonlethal violence in common-law relationships than within marriage (Aldridge & Browne, 2003; Campbell et al., 2007; Garcia et al., 2007).

The accumulated evidence, which have been found mostly in male offenders, indicates that many IPH offenders have witnessed interparental violence in their childhood home or experienced physical and sexual abuse as children (Aldridge & Browne, 2003; Campbell et al., 2007; Garcia et al., 2007; Saunders & Browne, 1991).

Severe mental disorders as well as personality disorders have been found more often among men who have committed femicide than among men who have perpetrated other types of homicide (Belfrage & Rying, 2004; Dobash et al., 2004; Farooque, Stout, & Ernst, 2005), although contradictory results have also been found (Dobash et al., 2004). Belfrage and Rying (2004) found that, although spouse batterers generally have been found to be personality disordered, male offenders guilty of IPH rarely have psychopathic traits. Only 4% of the 10-year nationwide sample of offenders guilty of spousal homicide in Sweden met the diagnostic criteria for psychopathy measured with the Psychopathy Checklist–Screening Version (PCL-SV). However, in this study, one third of the offenders who had been subjected to

a forensic psychiatric examination were considered to be psychotic. Furthermore, Belfrage and Rying found a higher suicide rate among the spousal homicide offenders than among offenders in their comparison group. Studies on homicide-suicide in IPH have indicated that a risk factor for IPH-suicide is separation, whereas a risk factor for homicide only is jealousy (Liem, 2010; Saunders & Browne, 1991). Substance abuse problems have also emerged as a risk factor for IPH (Aldridge & Browne, 2003; Belfrage & Rying, 2004; Campbell et al., 2007; Garcia et al., 2007). However, substance abuse has been found to be less likely among IPH offenders than among men guilty of other types of homicide (Dobash et al., 2004). In this same study, neither drug use nor alcohol abuse by the victim was independently associated with the risk of being a victim.

Studies on criminal history of the offender have shown that that previous arrests of the abuser for domestic violence decreased the risk of IPH but that arrest for other crimes did not differentiate IPH offenders from other kinds of homicide offenders (Campbell et al., 2003). However, Belfrage and Rying (2004) and Dobash et al. (2004) found that the frequency of previous criminality was lower among spousal homicide perpetrators than among offenders guilty of other types of homicide.

In summary, the empirical literature, conducted mainly in males, suggests that prior domestic violence is a major risk factor for IPH in men and self-defense in women. In addition to these risk factors, childhood adverse experiences, such as victimization and witnessing interparental violence, have been found to be risk factors as well as mental health problems and psychiatric morbidity. The findings regarding demographic characteristics and substance abuse have been conflicting. Consequently, the current study was designed to examine these putative risk factors in both genders and to increase the understanding of gender-specific risk factors for IPH.

Method and Material

The material of the present study was register based and nationwide. The forensic examination reports for all offenders convicted of homicide occurring during 1995-2004 were gathered from the Finnish National Authority for Medico Legal Affairs, currently named National Institute for Health and Welfare (THL), which organizes the forensic psychiatric examinations in Finland. The mean clearance rate of homicides in Finland during the years in question was 92% (Statistics Finland, 2009), and 85% of all homicide offenders receive a forensic examination as a standard part of the trial procedure (Joyal, Putkonen, Paavola, & Tiihonen, 2004). The forensic psychiatric

examinations in Finland are inpatient evaluations lasting 6 weeks on average. The evaluations are extensive, consisting of data collection from various sources: a review of medical, criminal, and military records; interviews by a multiprofessional team; psychiatric evaluation; psychological assessment; physical evaluation; and observation by hospital staff. The final forensic psychiatric report includes an opinion on the level of criminal responsibility. The overall quality and reliability of Finnish forensic psychiatric examinations are considered highly reliable both by courts and by scientists (Eronen, Repo, Vartiainen, & Tiihonen, 2000).

During 1995-2004, there were 642 offenders, who had undergone a forensic psychiatric examination as part of the trial procedure and been convicted of homicide. Of these offenders, 91 were female and 551 were male. The victim was an intimate partner or an ex-partner in 145 (22.6%) of all the homicide victims during the 10-year period of study, 39 (6.1%) were IPH victims of a female perpetrator and 106 (16.5%) of a male offender. The 39 intimate partner victims comprised 42.9% of all the homicide victims of female perpetrators and the 106 victims comprised 19.2% of all homicide victims of male offenders. Four of the female intimate partner victims were ex-intimate partners and 13 of the male victims were ex-partners. In the analyses, there were 39 female and 106 male IPH offenders, and 52 female and 445 male homicide offenders whose victims were not intimate partners (NON-IPH). All victims of female IPH offenders were male, whereas four victims of the male IPH offenders were male. The victims of female NON-IPH offenders were 36 (69.2%) females and 16 (30.8%) males, and the victims of male NON-IPH were 387 (87.2%) males and 57 (12.8%) females.

Ninety (99 %) of female offenders and 406 (74 %) of the male offenders were rated using the PCL-R. Thirty-nine (100 %) of the female IPH offenders and 81 (76 %) of the male IPH offenders had been rated by the PCL-R. Of the female NON-IPH offenders, 51 (98.1%) and 324 (72.8%) of the male NON-IPH offenders were rated. These groups were compared on the PCL-R.

The forensic psychiatric examination reports were retrospectively analyzed for presence of offense and offender characteristics. Risk variables based on previous literature on IPH were included. The following demographic variables were included: divorce, vocational training, working, and unemployment. The psychosocial history comprised childhood physical and sexual abuse, witnessing violence in the family, and adulthood victimization. Criminal history included both violent and property criminality and among the mental health issues psychiatric diagnoses, use of mental health services, suicidal behavior, and substance abuse treatment were included. Of the offense-related issues, methods and motivating circumstances of the offense as well as

intoxication of the offender and the victim at the time of the offense and crime locus were included. The motives comprised self-defense, revenge, and quarreling, which was mostly related to drinking. Diagnoses were based on *DSM-III-R* (American Psychiatric Association [APA], 1987) criteria until 1996. Since then ICD-10 (World Health Organization [WHO], 2005) has been the official classification, but *DSM-IV* (APA, 1994) has also been widely used. The diagnoses in Finnish forensic psychiatric examination reports have been found to be reliable as the diagnoses were made by impartial, independent forensic psychiatrists (Cannon, Kaprio, Lönnqvist, Huttunen, & Koskenvuo, 1998; Hovatta et al., 1997; Keskimäki & Aro, 1991). The interrater agreement of the variables in the study was assessed in our previous studies, with partly the same data and data procedure (Häkkänen & Laajasalo, 2006; Laajasalo & Häkkänen, 2004). Two raters coded randomly picked 10% of the cases to ensure that variables were unambiguous enough to guarantee reliable subjective interpretations of the variables. Interrater agreement was assessed by Cohen's kappa (Cohen, 1960). Only variables with a substantial or perfect agreement were included in the study (Brennan & Hays, 1992).

The Hare Psychopathy Checklist–Revised (Hare, 1991, 2003) was used for the assessment of psychopathy. The checklist has four factors, namely, the Interpersonal, Affective, Lifestyle, and Antisocial factors. The ratings were file based. Research has shown that assessments based solely on file information have sound reliability if there is sufficient file information (Alterman, Cacciola, & Rutherford, 1993; Grann, Långström, Tengström, & Stålenheim, 1998; Wong, 1988). As part of a national study on Finnish homicide offenders, forensic psychiatric examination reports were reviewed and scored for the PCL-R by trained raters. To evaluate the interrater agreement of the PCL-R ratings in the entire research project, 20 reports were randomly chosen and the PCL-R was rated by forensic psychiatrists and psychologists after having attended workshops and undergone a number of training sessions. The interrater agreement was assessed using intraclass correlation $ICC_{(2,1)}$. The ICC was .89 for the prorated PCL-R total score and greater than .90 for each of the four factors. All correlations were significant ($p < .001$).

Ethical Approval

Supervisory ethical authorities approved the study and additional permission was granted by The Ministry of the Interior, the Finnish National Institute for Health and Welfare (THL), and the Legal Register Center.

Data Analyses

The PASW Statistics 18.0 statistical software package was used in all analyses. Logistic regression with backward stepping was used in analyzing the groups of risk factors to find the significant factors and their possible significant gender differences. After that, if significantly different, the odds ratios were estimated for females and males using the hierarchical model formula of SPSS multinomial logistic regression. Independent samples *t* test was used to analyze age differences and the chi-square test and Fisher's exact test to compare frequencies. The *z* approximation test for the Mann-Whitney U test was used to analyze the differences in the PCL-R scores between the groups. Findings were considered significant if $p < .05$.

Results

The odds ratio for IPH was 3.1 (95% CI [2.0, 5.0]) times higher among females than among males. Bivariate statistics is presented in Table 1 and the odds ratios for factors linked with IPH in Table 2.

Demographic Characteristics

The comparison of IPH offenders to NON-IPH offenders showed no significant difference in age between the female IPH ($M = 40.2$, $SD = 12.4$; range = 19-82) and NON-IPH offenders ($M = 35.5$, $SD = 10.5$; range = 18-72; $t_{(89)} = 1.95, < .055$), but the male IPH offenders ($M = 38.3$, $SD = 11.1$; range = 17-75) were significantly older than the male NON-IPH offenders ($M = 35.1$, $SD = 11.9$; range = 15-79; $t_{(549)} = 3.5, < .001$).

The logistic regression showed that there was a significant gender difference regarding the likelihood of being employed at the time of the IPH. The female IPH offenders were employed less often than the female NON-IPH offenders, but the difference was not significant. Conversely, male IPH offenders were more often employed than the male NON-IPH offenders. The odds for IPH was 4.32 (95% CI [1.3, 14.6]) times higher among working males than among females. No significant differences were found in the other demographic characteristics.

Offense-Related Characteristics

The odds for IPH occurring at home were high for both genders, but no gender difference was evident. However, the risk for IPH was increased among

Table 1. Bivariate Statistics for Female IPH (n = 39) and NON-IPH (n = 52) Offenders and Male IPH (n = 106) and NON-IPH (n = 445) Offenders

	Female			Male		
	IPH[a]	NON-IPH[b]		IPH	NON-IPH	
Characteristics	n (%)[c]	n (%)	p[c]	n (%)	n (%)	p[c]
Demographic characteristics						
Employed	6 (15.8)	12 (24.5)	.426	24 (24.7)	47 (11.6)	.002
Vocational training	13 (34.2)	22 (45.8)	.377	48 (46.6)	145 (34.0)	.022
Unemployed	20 (55.6)	24 (48.0)	.519	56 (53.8)	277 (64.0)	.071
Offence related characteristics						
Offence took place at home	27 (69.2)	11 (22.4)	.001	60 (56.6)	46 (20.4)	.001
Sharp object	28 (71.8)	32 (61.5)	.374	48 (45.7)	263 (59.5)	.012
Firearm	4 (10.3)	3 (6.0)	.695	15 (14.2)	82 (18.5)	.324
Alcohol intoxication[d]	30 (88.2)	34 (72.3)	.102	84 (81.6)	343 (80.3)	.890
Victim intoxicated[e]	28 (87.5)	29 (69.0)	.049	60 (65.9)	249 (76.9)	.041
Motivating circumstances						
Quarrel	35 (89.7)	26 (50.0)	.001	83 (78.3)	254 (57.1)	.001
Self-defense	9 (36.0)	4 (12.9)	.066	1 (1.1)	53 (15.4)	.001
Revenge	1 (2.6)	5 (9.6)	.232	2 (2.2)	43 (12.5)	.005
Psychosocial and criminal history						
Witnessing violence in family	17 (54.8	27 (71.1)	.211	25 (25.0)	168 (40.8)	.004
Childhood physical victimization	10 (40.0)	18 (62.1)	.172	15 (24.2)	120 (44.3)	.004
Childhood sexual victimization	5 (31.1)	12 (52.2)	.325	2 (2.0)	9 (2.1)	—[e]

(*continued*)

Table 1. (Continued)

	Female			Male		
	IPH[a]	NON-IPH[b]		IPH	NON-IPH	
Characteristics	*n* (%)[c]	*n* (%)	*p*[c]	*n* (%)	*n* (%)	*p*[c]
Any adulthood criminal victimization	29 (70.3)	30 (77.7)	.814	29 (34.5)	167 (48.2)	.051
History of violent criminality	7 (17.9)	17 (35.4)	.092	42 (41.2)	255 (58.1)	.003
History of property criminality	13 (33.3)	22 (44.0)	.383	52 (50.0)	304 (68.9)	.001
Mental health characteristics						
Psychoses	2 (5.1)	11(22.9)	.032	8 (7.6)	67 (15.1)	.057
Mood disorder	0 (0.0)	1 (2.1)	—[e]	1 (1.0)	7 (1.6)	—[e]
Any personality disorder	24 (61.5)	36 (70.6)	.378	76 (71.1)	328 (73.9)	.714
Antisocial personality disorder	5 (12.8)	16 (30.8)	.049	25 (23.6)	166 (37.3)	.009
Alcohol use/dependence	26 (66.7)	29 (58.0)	.510	66 (62.3)	307 (69.5)	.165
Drug use/dependence	5 (12.8)	8 (16.0)	.768	13 (12.6)	104 (23.6)	.016
Psychiatric contact prior to age 18	6 (15.8)	17 (35.4)	.051	14 (13.7)	113 (25.8)	.009
Psychiatric inpatient	16 (41.0)	29 (56.9)	.202	31 (32.3)	164 (41.6)	.104
Documented self-abuse/suicide attempts	23 (65.7)	24 (64.9)	.808	29 (28.2)	142 (32.6)	.412
Suicide-homicide attempts	0 (0)	8 (16.3)	.009	14 (13.6)	12 (2.8)	.001
Legally insane	2 (5.1)	11 (22.0)	.034	9 (8.5)	69 (15.6)	.064

a. Intimate partner homicide.
b. Other type of homicide.
c. Fisher's test.
d. Intoxication at the time of the offense.
e. Few observations preclude the analyzes.

Table 2. Odds for Risk Factors of Intimate Partner Homicide in Female and Male Offenders

	Female[a]		Both Genders[a]		Male[b]	
Risk Factors	*OR*	95% CI	*OR*	95% CI	*OR*	95% CI
Demographic						
Employed	0.58	[0.2, 1.7][c]			2.5	[1.4, 4.3]
Offence related						
Offence occurring at home			9.6	[5.8, 16.0]		
Sharp object			0.56	[0.3, 0.9]		
Victim intoxicated	22.9	[5.0, 105.0]			0.74	[0.4, 1.3][c]
Motives						
Quarrel	8.2	[2.5, 26.9]			2.4	[1.4, 4.0]
Self-defense	2.1	[0.5, 8.0]			0.07	[0.01, 0.48]
Revenge			0.22	[0.1, 0.7]		
Mental health issues						
Diagnosis drug use/ dependence			0.52	[0.3, 0.9]		
Psychiatric contact prior to 18 years			0.44	[0.3, 0.8]		
Antisocial personality disorder			0.48	[0.3, 0.8]		
Victimization						
Witnessing violence in childhood family			0.56	[0.4, 0.9]		
Criminal history						
Property offenses			0.53	[0.4, 0.8]		

Note: *OR* = odds ratio; CI = confidence interval.
a. Significant gender difference.
b. Significant (<.05) but no gender difference.
c. Not significant among females/males.

female offenders when the victim was intoxicated, whereas the odds decreased among male offenders. This latter finding regarding males was, however, not significant. The use of a sharp knife as the weapon of choice decreased the likelihood for IPH in both genders, but there was no gender difference found. Quarrels, mostly related to drinking increased the odds for IPH in both genders but significantly more among women than among men. A significant gender difference emerged regarding self-defense, which increased the likelihood for IPH among females but decreased the likelihood among males. Revenge decreased the likelihood for IPH in both genders and there was no gender difference. Alcohol and drug intoxication at the time of the offense did not prove significant.

Psychosocial and Criminal History

Neither childhood nor adulthood victimization were associated with IPH, although witnessing violence in the family of origin decreased the odds for IPH in both genders. However, due to a low frequency of childhood sexual abuse, this variable was not included in the logistic regression. The impact of criminal history and prior violent criminality on IPH was not significant in this study, but previous property offenses decreased the likelihood of IPH in both genders.

Mental Health Characteristics

Logistic regression showed that psychiatric contact with mental health authorities prior to 18 years of age, diagnosis of drug use/dependence, and antisocial personality disorders did not emerge as risk factors in the logistic regression, but they were found to decrease the likelihood for IPH in both genders. Although these factors were significant in both genders, no significant gender differences could be found. Due to a low frequency of suicide attempts, psychosis, and mood disorder, the data could not be analyzed by logistic regression. Significant differences among the four groups were found in assessment of legal insanity.

Psychopathy

Logistic regression showed that psychopathy decreased the likelihood for IPH when using both the cut-off score of ≥30 ($OR = 0.34$; 95% CI [0.2, 0.7]) and the cut-off score of ≥25 ($OR = 0.48$; 95% CI [0.29, 0.79]).

Among the female IPH offenders, there were three (7.7%) women fulfilling the cut-off score of ≥30 and five (12.8%) fulfilling the cut-off of ≥25. Among the male IPH offenders, there were 6 (7.4%) scoring ≥30 and 19 (23.5%) scoring ≥25 or above. There were no significant differences between the female IPH and NON-IPH offenders, but there were significantly more male NON-IPH offenders scoring ≥30 (22.5%) and ≥25 (37.7%) than among the male IPH offenders ($p = .002$ and $p = .019$, respectively).

Mann-Whitney U test showed a significant lower PCL-R score among the female IPH offenders than among the female NON-IPH offenders on the Affective factor scores ($z = -2.6$, $n_1 = 39$, $n_2 = 51$, $p = .01$, two-tailed) and the Antisocial factor scores ($z = -2.1$, $n_1 = 39$, $n_2 = 51$, $p = .04$, two-tailed). Corresponding differences were found among male offenders concerning the Lifestyle and Antisocial factors ($z = -4.6$, $n_1 = 81$, $n_2 = 320$, $p < .01$ and $z = -4.7$, $n_1 = 76$, $n_2 = 311$, $p < .01$, two-tailed).

Discussion

The purpose of the present study was to examine gender differences in offense and offender characteristics with the focus on putative gender-specific risk factors in IPH. The studied risk factors were based on prior findings. Significant gender differences were found in four risk factors: the victim being intoxicated, the offender being employed at the time of offense, quarrels due to intoxication, and self-defense being the motivating circumstance of the crime. The findings indicate that female and male IPH offenders differ from each other and that both genders seem to form distinct groups from the common homicide offenders.

In the present study, the victim being intoxicated at the time of the offense as well as self-defense and mostly quarrels due to intoxication (Kivivuori, Lehti, & Aaltonen, 2007; Salmi et al., 2009) seemed to increase the likelihood for IPH among females. However, these same factors decreased the likelihood for IPH among males, with the exception of quarreling, which similarly increased the risk among males, yet to a lesser degree. These findings support the view that female IPH is linked to defensive reactions resulting from abuse and that the situational characteristics of the offense are different in IPH perpetrated by women than men (Campbell, Webster, & Glass, 2009; Saunders & Browne, 1991; Serran & Firestone, 2004; Wilson & Daly, 1998). Also Swatt and He (2006) found that prehomicide injury differentiated between male and female offenders. Based on this assumption, Campbell and her coworkers (1986, 2009) developed a checklist of risk factors for IPH with the severity of violence and injuries as risk factors for both genders.

The odds ratio for females to commit IPH was three times higher than among males in the present study. This supports the view that women kill their spouses as a result of victimization. The victim was a spouse in 43% of the homicides by female perpetrators and 24% of the male perpetrated homicides. However, mutual violence has been found to preceded IPH in both genders in a report based on national statistical and survey information from the Finnish National Research Institute of Legal Policy (Salmi et al., 2009). Fifteen percent of the female victims reported that they had previously victimized their male perpetrator, whereas 46% of the male victims had abused their female perpetrator. Forty-seven percent of the male perpetrators and 35% of the female perpetrators had previously abused their IPH victims. The relatively high proportion of females abusing their partners in this study may be linked to an alarming increase in gender convergence in alcohol consumption in Finland in recent years. The reason may be the putative egalitarian position of females and the changing drinking culture of the country (Bloomfield, Gmel, Neve, & Mustonen, 2001). Although there may be cultural differences, mutual violence preceding IPH ought to be studied in relation to motivational circumstances and prior victimization.

Some studies have shown alcohol abuse to be a risk factor for IPH (Aldridge & Browne, 2003; Belfrage & Rying, 2004; Garcia et al., 2007), but this was not the case in the present study. The explanation is probably that alcohol intoxication at the time of the offense was very high among both the IPH and NON-IPH offenders. However, the victim being intoxicated at the time of the offense emerged as a risk factor in women but not in men. This may indicate that both parties have often been intoxicated at the time of the offense and that the state of intoxication more often has led to quarrels, or it may also indicate that the violent behavior of the woman more often results in death when the partner is intoxicated. In the Finnish study by Salmi and coworkers (2009), both the victim and the perpetrator was intoxicated at the time of the offense in 60% of the IPH offenses and either of them in 80% of the IPH offenses. The authors concluded that the female and male IPH offenders in Finland are alike regarding the degree of marginalization from the society and alcohol abuse.

Employment at the time of the offense seemed to be more common among the IPH males in the present study, atypical of the Finnish homicide offender, who is a marginalized and alcohol dependent man (Aaltonen, Hinkkanen, Kivivuori, & Sirén, 2008; Kivivuori et al., 2007). Employment was, however, rare among the female offenders and the odds were four times higher among employed male offenders perpetrating IPH than among female offenders. This was contrary to the findings by Rying (2001), who found the male IPH

offenders to have a low status and a high degree of unemployment. Unemployment, which Campbell and her coworkers (2007, 2003) found to be the most important risk factor among male spousal batterers, did not emerge as a risk factor in our study due to a high proportion of unemployed men among both the male IPH and NON-IPH offenders. The results of the present study were in agreement with the findings by Dobash et al. (2004). These authors compared male IPH offenders with male offenders who had murdered other men and discussed their findings in terms of conventionality. They found that the IPH offenders differed from offenders whose victims were not intimate partners in regard to childhood victimization, criminal history, and physical violence in general as well as in education and frequency of employment. In these respects, the IPH offenders resembled the general population. Similarly, previous studies on filicide indicate that male and female offenders whose victims are children differ from the average homicide offender forming a distinct subgroup (Putkonen et al., 2009, 2010).

The results of the present study support the conclusions made by Dobash and colleagues (2004) regarding the "conventionality" of the IPH offenders. We found that antisocial personality disorder and psychopathy as well as drug abuse/dependence and a history of property criminality were less likely in both female and male IPH offenders than in NON-IPH offenders. All the same, Dobash and colleagues (2004) found that the IPH offenders were not like people in general because their social contacts and relationships were a cause of problems to themselves. As in the present study, they found an association between interpartner quarrels and IPH. This relational nature of IPH was supported by our findings, particularly regarding females in the present study showing that the offense occurred most commonly at home and was mostly a defensive reaction as well as the high likelihood that the victim was intoxicated at the time of the offense. However, including the motivational circumstances such as jealousy and possessiveness in the present study would have shed more light on the gender differences regarding the nature of the IPH relationships.

Although no significant gender differences emerged in characteristics related to the mental health issues, criminal history, and childhood victimization, these factors turned out to be significant in both genders. Psychiatric contact prior to the age 18, witnessing violence in the family of origin, the diagnoses of antisocial personality disorder and drug abuse/dependence, property offenses as well as being motivated by revenge seem to decrease the odds for IPH in comparison with other homicides. This finding was in accordance with the notion that IPH offenders are less antisocial than offenders in general, but in contrast to previous studies a low prevalence of mental illness

and mental difficulties as well as a low frequency of legally insane IPH offenders were found (Belfrage & Rying, 2004; Campbell et al., 2003; Farooque et al., 2005; Rying, 2001). Furthermore, the Finnish study by Salmi and coworkers (2009) covering 2003 to 2007 showed that none of the female perpetrators who had killed their spouse had been found not responsible for their offense due to mental illness, whereas it was more common among the male IPH offenders. In the present study, both female and male IPH offenders received significantly lower scores on the PCL-R antisocial factor defined as poor behavioral controls and violation of social norms than the NON-IPH offenders. Female IPH offenders, however, received significantly lower scores on the affective factor defined as shallow emotions and lack of guilt and empathy whereas the male IPH offenders received lower scores on the lifestyle factor than the NON-IPH offenders. This indicates that female IPH offenders might be emotionally less deficient than the female NON-IPH offenders, whereas male IPH offenders seemed to be less impulsive and irresponsible than their NON-IPH counterparts.

The prevalence of psychopathy among the IPH offenders in the present study was higher in both genders than was found in the study by Belfrage and Rying (2004), but clearly lower in both female IPH and NON-IPH offenders (8% and 10%, respectively) than has previously been found among Finnish female offenders guilty of violent offenses (20%; Weizmann-Henelius, Viemerö, & Eronen, 2004). Furthermore, the proportion of male IPH fulfilling the criteria for psychopathy was significantly lower than among the male NON-IPH. These differences and the conflicting empirical evidence regarding a putative qualitative dissimilarity between IPH offenders and those using nonlethal violence indicate a need for further studies (Aldridge & Browne, 2003; Dobash, Dobash, Cavanagh, & Medina-Ariza, 2007). However, Dobash et al. (2007) found that IPH offenders differed with respect to their background, possessiveness, and violent behavior indicating that the progression from nonlethal violence to lethal violence is not simplistic.

An obvious strength of our study was that it was a nationwide, comprehensive study of all offenders subjected to an extensive forensic psychiatric examination and convicted of homicide, including IPH during the studied period from 1995 to 2004. This enabled comparisons of the four groups, the female and male IPH and female and male NON-IPH offenders. Furthermore, the high Finnish clearance rate of homicides, reliable statistics, and thorough forensic psychiatric examinations form a solid base for a register-based study. However, a limitation of the present study was that we could not study the impact of previous domestic violence due to the lack of this information in the register-based data. Moreover, the fact that the study was retrospective

and register-based as well as a part of a larger research project did present obvious limitations because our data did not include information on other risk factors either. Particularly interesting would have been to study separation as well as possessiveness and jealousy related to intimate partner relationships as found in recent studies (Serran & Firestone, 2004). These variables are, furthermore, difficult to measure (Serran & Firestone, 2004).

Conclusion

The risk factors found in the present study show that female IPH seems to be linked to defensive reactions resulting from prior partner abuse and that the situational factors of the IPH perpetrated by females differ from those perpetrated by men. This gender diversity calls for risk-assessment tools for predicting IPH separately for women and men. The findings indicate, moreover, that female and male IPH offenders form separate groups from the common homicide offenders. Therefore, further research ought to examine if the risk factors for IPH are different from those for IPV. Identifying risk factors for IPH and violence is crucial particularly for mental health and other professionals confronting these problem situations. Interpartner violence is a problem that should receive increased attention in the form of interventions aiming not only at ending it but also to help the victims—the women, who are most often exposed to violence.

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